

Greenhouse Gas Emission Calculations for St. Charles County (Design Year 2015)

Analysis of the Effects on Missouri Route 364 Between 2 PM to 7 PM on Westbound Traffic Emissions

No Build

I-70

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
203	210	8,789	42	9.28	570,917
210	213	10,935	48	7.53	247,027
213	222	15,227	34	12.57	1,722,626
222	229	14,908	51	7.53	785,784
Total					3,326,355

I-64

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-70	Missouri Route 364	7,613	43	8.96	272,844
Missouri Route 364	Missouri River	7,829	39	10.36	648,847
Total					921,691

Missouri Route 364

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-64	Route 94	0	0	0	0
Route 94	Missouri River	6,611	57	8.91	353,437
Total					353,437

Grand Total 4,601,483

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Build

I-70

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
203	210	8,789	42	9.28	570,917
210	213	10,274	53	7.53	232,087
213	222	14,449	43	8.96	1,165,171
222	229	14,461	55	7.53	762,249
Total					2,730,424

I-64

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-70	Missouri Route 364	8,172	36	11.61	379,484
Missouri Route 364	Missouri River	7,051	47	7.79	439,403
Total					818,887

Missouri Route 364

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-64	Route 94	3,838	58	9.6	331,568
Route 94	Missouri River	7,676	55	7.53	346,815
Total					678,383

Grand Total 4,227,694

Reduction in Greenhouse Gas Emissions (%) -8%

Greenhouse Gas Emission Calculations for St. Charles County (Design Year 2030)

Analysis of the Effects on Missouri Route 364 Between 2 PM to 7 PM on Westbound Traffic Emissions

No Build

I-70

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
203	210	10,999	28	16.27	1,252,705
210	213	13,344	40	9.98	399,527
213	222	21,142	20	24.67	4,694,190
222	229	16,018	50	7.53	844,332
Total					7,190,754

I-64

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-70	Missouri Route 364	9,871	33	13.1	517,262
Missouri Route 364	Missouri River	11,719	26	17.89	1,677,209
Total					2,194,471

Missouri Route 364

Mile Marker		WestboundTraffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-64	Route 94	0	0	0	0
Route 94	Missouri River	8,815	53	7.53	398,264
Total					398,264

Grand Total 9,783,488

Greenhouse Gas Emission Calculations for St. Charles County (Design Year 2030)

Analysis of the Effects on Missouri Route 364 Between 2 PM to 7 PM on Westbound Traffic Emissions

Build

I-70

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
203	210	10,648	40	9.98	743,852
210	213	12,682	53	7.53	286,481
213	222	20,011	30	14.88	2,679,820
222	229	15,344	55	7.53	808,756
Total					4,518,908

I-64

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-70	Missouri Route 364	10,508	30	14.88	625,461
Missouri Route 364	Missouri River	10,447	38	10.75	898,455
Total					1,523,916

Missouri Route 364

Mile Marker		Westbound Traffic Volume 2 pm to 7 pm	Average Travel Speed 2 pm to 7 pm	Emission Factor (g/mile)	Greenhouse Gas Emissions (g)
Start	End				
I-64	Route 94	5,945	53	7.53	402,866
Route 94	Missouri River	10,473	47	7.79	489,496
Total					892,362

Grand Total 6,935,186

Reduction in Greenhouse Gas Emissions (%) -29%